

4. CMP PRINCIPAL SPILLWAY BARREL, DRAWDOWN PIPE, OR UNDERGROUND OUTLET - Dollars per linear foot (Includes pipe, cost of laying, and profit--does not include 4 feet of pipe in principal spillway tee, 2 feet of pipe in drawdown pipe tee, or vertical pipe under floor of fish pond outlet structure)																			
DIA IN.	16 GAUGE					14 GAUGE					12 GAUGE					10 GAUGE			
	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	ALUM STEEL
6	\$7.33	\$8.36			\$8.28														
8	\$9.04	\$10.41			\$10.22														
10	\$10.84	\$12.56			\$12.25														
12	\$13.68	\$15.77	\$21.14	\$19.16	\$15.46														
15	\$15.75	\$18.30	\$24.84	\$22.13	\$17.79														
18	\$18.27	\$21.35	\$29.14	\$25.60	\$20.64														
21	\$20.86	\$24.39	\$33.15	\$29.23	\$23.58														
24	\$24.35	\$28.36	\$38.54	\$33.84	\$27.51														
30	\$29.26	\$34.28	\$46.79	\$40.87	\$33.07	\$34.33	\$38.86	\$55.42	\$48.37	\$38.79									
36						\$43.34	\$48.79	\$69.24	\$61.36	\$48.97	\$54.11	\$59.58	\$84.93	\$77.25	\$61.15				
42											\$62.26	\$68.67	\$97.53	\$88.97	\$70.36	\$75.59	\$82.05	\$113.74	\$85.42
48																\$79.41	\$89.48	\$128.82	\$89.73

5. CONNECTING BANDS															
A. Corrugated Metal (CM) Connecting Bands - Dollars per each (Includes 2 feet of corrugated metal, 4 rods, gasket, installation, and profit)															
DIA IN.	16 GAUGE					14 GAUGE					12 GAUGE				
	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL
12	\$108	\$118	\$129	\$124	\$122										
15	\$119	\$135	\$149	\$135	\$135										
18	\$131	\$149	\$166	\$148	\$149										
21	\$143	\$164	\$180	\$161	\$162										
24	\$156	\$178	\$198	\$176	\$176										
30	\$181	\$207	\$232												
36	\$217	\$246	\$277												
42															
48						\$234	\$260	\$301	\$269	\$265	\$291	\$323	\$371	\$337	\$328
						\$269	\$294	\$344			\$323	\$361	\$418	\$376	\$365
B. Hugger Bands - Dollars per each (Includes band, 2 "O" ring gaskets, 2 rods, installation, and profit)															
DIA IN.	16 GAUGE (10.5" or 13.125")					DIA IN.	16 GAUGE (10.5" or 13.125")								
	PLAIN GALV.	ASPHALT COATED	POLYMER COATED	ALUM STEEL			PLAIN GALV.	ASPHALT COATED	POLYMER COATED	ALUM STEEL					
12	\$72	\$83	N/A	\$81		30	\$120		\$128	N/A	\$136				
15	\$79	\$90	N/A	\$89		36	\$142		\$148	N/A	\$160				
18	\$87	\$98	N/A	\$98		42	\$165		\$175	N/A	\$186				
21	\$95	\$104	N/A	\$107		48	\$183		\$194	N/A	\$207				
24	\$104	\$112	N/A	\$117											
6. METAL ANTI-SEEP COLLARS - Dollars per each (Includes materials, fabrication, installation, and profit)															
DIA IN.	ONE-PIECE				TWO-PIECE										
	16 GAUGE				16 GAUGE					14 GAUGE					
	SIZE IN.	PLAIN GALV.	ASPHALT COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	PLAIN GALV.	ASPHALT COATED	FIBER BONDED	POLYMER COATED	ALUM STEEL	
6	48	\$101	\$126	\$114											
	60	\$148	\$183	\$168											
8	48	\$102	\$128	\$115											
	60	\$149	\$184	\$169											
10	48	\$103	\$131	\$116											
	60	\$151	\$188	\$170											
12	48	\$127	\$185	\$144											
	60	\$151	\$189	\$171	\$305	\$398	\$484	\$372	\$345						
	72	\$210	\$270	\$237	\$352	\$452	\$549	\$396	\$398						
15	60				\$314	\$411	\$501	\$378	\$355						
	72				\$362	\$466	\$568	\$402	\$409						
18	60				\$324	\$422	\$516	\$386	\$366						
	72				\$371	\$478	\$583	\$410	\$419						
21	60				\$334	\$422	\$533	\$396	\$377						
	72				\$381	\$491	\$599	\$418	\$431						
24	60				\$345	\$449	\$550	\$404	\$390						
	72				\$392	\$503	\$614	\$427	\$443						
	84									\$512	N/A	N/A	\$644	\$579	
30	72														
	84									\$456			\$651	\$516	
	96									\$590	\$724	\$886	\$733	\$666	
36	72				\$497		\$541	\$649	N/A						
	84									\$571	\$735	\$901	\$667	\$646	
	96									\$508	N/A	N/A	\$744	\$574	
42	84									\$588	\$760	\$932	\$678	\$664	
	96									\$646	\$812	\$995	\$768	\$730	
48	84									\$535	\$631	\$945	\$690	\$605	
	96									\$669	\$848	\$1,040	\$780	\$756	

MATERIAL, SERVICE, OR OPERATION (Includes installation and profit)	UNITS	PIPE DIAMETER - IN.														
		4	5	6	8	10	12	15	18	21	24	30	36	42	48	54
7. STEEL BASE FOR CMP RISER	EACH						\$53	\$70	\$111	\$136	\$158	\$301	\$461			
8. SLOTTED FLANGES FOR CMP 1/	PAIR			\$56	\$73	\$83	\$92									
9. TRASH RACK FOR CMP RISER	EACH						\$240	\$283	\$320	\$432	\$538	\$744	\$944	\$1,737	\$2,088	\$2,113
10. TRASH RACK FOR CANOPY INLET	EACH			\$127	\$134	\$156	\$192	\$222	\$268	\$325	\$410					
11. GUARD RAIL FOR CMP RISER	EACH												\$1,526	\$1,526	\$1,849	\$1,849
12. CM PIPE SUPPORT																
A. 6 ft. depth below pipe	EACH			\$213	\$219	\$224	\$232	\$270	\$313	\$361	\$371					
B. Each additional foot	LIN. FT.			\$28	\$29	\$32	\$35	\$38	\$40	\$43	\$46					
13. TIMBER PIPE SUPPORT																
A. 5 ft. depth below pipe	EACH			\$137	\$137	\$137	\$137	\$193	\$193	\$193	\$239	\$239				
B. Each additional foot	LIN. FT.			\$12	\$12	\$12	\$12	\$15	\$15	\$15	\$19	\$19				
14. FABRICATION OF STEEL CMP ELBOW																
A. Plain galv.	EACH			\$48	\$60	\$72	\$85	\$103	\$121	\$140	\$158	\$206	\$245	\$284	\$368	
B. Asphalt coated	EACH			\$55	\$69	\$83	\$97	\$118	\$139	\$160	\$181	\$235	\$281	\$326	\$421	
C. Fiber bonded	EACH			\$57	\$72	\$86	\$102	\$124	\$145	\$167	\$189	\$246	\$293	\$341	\$440	
D. Polymer coated	EACH			\$69	\$86	\$104	\$122	\$148	\$174	\$201	\$227	\$295	\$352	\$409	\$529	
15. FABRICATION OF CANOPY INLET																
A. PVC or plain galv.	EACH			\$34	\$39	\$50	\$60	\$66	\$72	\$77	\$88	\$104				
B. Asphalt coated	EACH			\$41	\$47	\$60	\$72	\$80	\$87	\$92	\$105					
C. Fiber bonded	EACH			\$44	\$51	\$65	\$78	\$87	\$94	\$100	\$114					
D. Polymer coated	EACH			\$49	\$57	\$72	\$87	\$96	\$105	\$110	\$126	\$155				
E. Aluminized steel	EACH						\$68	\$75	\$82	\$87	\$99	\$117				
16. MANUALLY TAMPED BACKFILL																
A. Riser for drop inlet spillways	LIN. FT.						\$9	\$10	\$11	\$11	\$12	\$14	\$15	\$17	\$18	\$20
B. CMP and plastic pipe barrels	LIN. FT.			\$3	\$4	\$5	\$5	\$6	\$8	\$9	\$11	\$14	\$18	\$23	\$28	\$33
C. Terrace underground outlet under terrace ridge	LIN. FT.	\$0.64	\$0.71	\$0.79	\$0.96	\$1.13	\$1.30	\$1.57	\$1.86	\$2.16	\$2.48					
17. METAL END SECTION 2/	EACH			\$83	\$87	\$98	\$120	\$135	\$152	\$196	\$229					

CONSTRUCTION ITEM	UNIT	UNIT COST
18. CONCRETE (IN PLACE) - Including ag waste structure		
A. Riser base, drop spillway floor, or slab	CU. YD.	\$225
B. Pipe support and complex formed structure	CU. YD.	\$350
C. Reinforcing steel	LB.	\$1.10
19. GRADE STABILIZATION OR DROP STRUCTURE		
A. Concrete block chute 3/	BLOCK	\$3.52
(1) Bedding material	TON	\$5.25
(2) Hauling costs 4/	TON-MILE	\$0.16
B. Terrace outlet structure 3/	CU. YD.	\$325

1/ Includes a pair of flanges welded to the pipe, gasket, or mastic and cost of bolting together

2/ Includes 2 feet of CMP, rodent guard, and end section

3/ Includes cost of all materials, nominal foundation excavation, installation, and profit

4/ Tons hauled times one-way mileage

STATE AVERAGE COST DATA
FOR PRACTICE COMPONENTS

MATERIAL, SERVICE, OR OPERATION (Includes installation and profit)	UNITS	4	5	6	8	10	12	14	15	16	18	24
20. PLASTIC PIPE												
A. Principal spillway barrel 1/ (1) SDR 17 or Schedule 80	LIN. FT.			\$5.66	\$8.58	\$12.96	\$17.82					
(2) SDR 21	LIN. FT.			\$4.09	\$7.54	\$12.24	\$16.86					
(3) Schedule 40	LIN. FT.			\$4.51	\$7.37	\$10.66	\$14.31					
(4) SDR 26	LIN. FT.			\$3.41	\$5.78	\$8.98	\$12.70					
(5) DR 25	LIN. FT.			\$4.27	\$6.62	\$10.43	\$15.91	\$18.93	N/A	\$23.10		
(6) DR 18	LIN. FT.			\$5.33	\$8.27	\$13.04	\$19.89	\$23.67	N/A	\$28.87		
B. Underground outlet main conduit 2/ (1) PVC												
(i) SDR 21	LIN. FT.	\$3.15	\$2.82	\$4.89	\$7.76	\$11.69	\$15.93					
(ii) SDR 26	LIN. FT.	\$3.01	\$2.39	\$4.37	\$5.78	\$8.19	\$12.36					
(iii) SDR 32.5 and 35	LIN. FT.	\$2.47	N/A	\$3.55	\$5.00	\$7.68	\$10.01	N/A	\$14.33			
(iv) SDR 41	LIN. FT.	\$2.31	N/A	\$2.84	\$4.20	\$5.78	\$8.40	N/A	\$13.23	N/A	\$19.00	
(2) PVC smooth inside and corr. outside	LIN. FT.	\$3.40	N/A	\$3.86	\$4.89	\$6.72	\$8.00	N/A	\$12.26	N/A	\$15.71	\$28.58
(3) PE	LIN. FT.	\$1.95	\$2.25	\$2.49	\$3.34	\$4.82	\$6.26	N/A	\$8.70	N/A	\$11.56	\$16.74
(4) PE smooth inside and corr. outside	LIN. FT.	\$2.42	N/A	\$3.50	\$4.68	\$5.81	\$7.58	N/A	\$9.50	N/A	\$12.93	\$18.70
	SIZE IN.	PREFABRICATED RISER DIA. - IN.					PVC RISER DIA. - IN.					
		5	6	8	10	12	5"	6	8	10	12	15
C. Underground outlet connections 3/ (1) Underground outlet riser and tee												
(i) PVC Tee												
	4		\$110	\$145				\$146	\$192			
	6		\$111	\$148	\$223	\$417		\$147	\$196	\$305	\$407	
	8		\$129	\$163	\$238	\$432		\$165	\$211	\$320	\$422	\$637
	10		\$199	\$247	\$279	\$473		\$235	\$294	\$361	\$464	\$679
	12		\$232	\$275	\$354	\$465		\$268	\$322	\$436	\$456	\$671
	15		\$342	\$374	\$456	\$620		\$378	\$422	\$538	\$610	\$692
(ii) PE or prefabricated tee (Includes PE and Hickenbottom or comparable prefabricated riser tee)												
	4	\$82	\$98	\$121	\$145	\$275	\$119	\$134	\$168	\$227	\$266	\$353
	5	\$87	\$102	\$125	\$149	\$280	\$123	\$138	\$172	\$231	\$270	\$357
	6	\$89	\$104	\$127	\$152	\$282	\$125	\$141	\$175	\$234	\$272	\$359
	8	\$101	\$116	\$139	\$164	\$294	\$137	\$153	\$187	\$246	\$284	\$371
	10	\$111	\$127	\$149	\$174	\$304	\$147	\$163	\$197	\$256	\$295	\$381
	12	\$154	\$170	\$193	\$217	\$347	\$191	\$206	\$240	\$299	\$338	\$425
	15	\$207	\$223	\$245	\$270	\$400	\$243	\$259	\$293	\$352	\$391	\$477
	18	\$239	\$255	\$278	\$302	\$433	\$276	\$291	\$325	\$384	\$423	\$510
	24	\$443	\$458	\$481	\$506	\$636	\$479	\$494	\$529	\$587	\$626	\$713
(iii) PVC smooth inside and corrugated outside tee (Contech A2000 or comparable)												
	4		\$105	\$149	\$235	\$476		\$141	\$197	\$317	\$467	\$702
	6		\$111	\$155	\$240	\$482		\$147	\$202	\$322	\$472	\$707
	8		\$159	\$161	\$247	\$488		\$196	\$209	\$329	\$479	\$713
	10		\$325	\$327	\$290	\$532		\$361	\$374	\$372	\$522	\$757
	12		\$528	\$530	\$493	\$512		\$564	\$577	\$575	\$503	\$737
	15		\$798	\$800	\$763	\$782		\$834	\$847	\$845	\$773	\$711
	18		\$1,320	\$1,321	\$1,285	\$1,304		\$1,356	\$1,369	\$1,367	\$1,294	\$1,233
(iv) PE smooth inside and corrugated outside tee (ADS 'N-12' or comparable)												
	4	\$95	\$110	\$133	\$158	\$288	\$131	\$146	\$181	\$239	\$278	\$365
	6	\$101	\$117	\$140	\$164	\$294	\$138	\$153	\$187	\$246	\$285	\$371
	8	\$133	\$148	\$171	\$196	\$326	\$169	\$185	\$219	\$278	\$316	\$403
	10	\$171	\$186	\$209	\$234	\$364	\$207	\$222	\$257	\$315	\$354	\$441
	12	\$233	\$249	\$272	\$296	\$426	\$269	\$285	\$319	\$378	\$417	\$503
	15	\$299	\$315	\$337	\$362	\$492	\$335	\$351	\$385	\$444	\$483	\$569
	18	\$403	\$418	\$441	\$466	\$596	\$439	\$454	\$489	\$547	\$586	\$673
	24	\$496	\$512	\$534	\$559	\$689	\$532	\$548	\$582	\$641	\$680	\$766

1/ Does not include manually tamped backfill

2/ Includes trenching and machine-placed backfill

3/ When risers are used as "bubble up" structures, add 10% if gravel is used as backfill.

MATERIAL, SERVICE, OR OPERATION (Includes installation and profit)			TEE SIZE IN.	UPSTREAM INLET SIZE IN.	SIDE INLET SIZE - IN.												
20. PLASTIC PIPE (Continued) C. Underground outlet connections (2) PE tee assemblies for main line connections			4	4	4	5	6	8	10	12							
					\$50												
			5	4	\$57	\$56											
					\$56	\$54											
			6	4	\$61	\$61	\$61										
					\$61	\$61	\$61										
					\$58	\$58	\$58										
			8	4		\$77	\$77	\$78									
						\$75	\$75	\$75	\$77								
						\$72	\$72	\$72	\$73								
			10	6		\$95	\$96	\$94									
						\$92	\$93	\$90									
						\$85	\$87	\$84									
			12	8		\$158	\$159	\$155	\$155								
						\$151	\$152	\$150	\$150								
						\$143	\$144	\$142	\$142								
			UNITS	1	1-1/4	1-1/2	2	4	6	8	10	12	14	15	18	21	24
D. Water supply line under dam (1) 50 ft. schedule 40, PVC 1/ (2) Each additional ft. of pipe			EACH LIN. FT.			\$313 \$3.13	\$331 \$3.29	\$676 \$6.17									
E. Siphon supply line under dam (1) 50 ft. 60 psi PE pipe 2/ (2) Each additional ft. of pipe			EACH LIN. FT.		\$499 \$2.85	\$514 \$2.93	\$557 \$3.06										
F. Irrigation water conveyance (1) Low head pipe (22 psi) (2) Low pressure pipe (50 psi) (3) High pressure pipe (80 psi)			LIN. FT.					\$3.05	\$3.62	\$4.46							
								\$3.41	\$4.09	\$4.73	\$4.99						
								\$3.41	\$4.09	\$4.73	\$4.99	\$5.71	\$6.19				
G. Domestic and livestock supply			LIN. FT.	\$0.90	\$1.20	\$1.20	\$1.20										
H. Slotted flume (1) Fixed cost for each installation (2) Additional cost per foot			EACH LIN FT.					\$103 \$12.84	\$114 \$17.45	\$125 \$18.71							
21. BUTYL RUBBER ANTI-SEEP COLLARS																	
A. 30" x 30"			EACH		\$33	\$33	\$33	\$33									
B. 48" x 48"			EACH		\$49	\$49	\$49	\$49	\$49	\$49	\$49						
C. 60" x 60"			EACH		\$61	\$61	\$61	\$61	\$61	\$61	\$61	\$61	\$61	\$61	\$61	\$61	\$61
22. POLYETHYLENE ANTI-SEEP COLLARS																	
A. 30" x 30"			EACH		\$111												
B. 48" x 48"			EACH		\$116	\$117	\$118	\$119	\$121	\$126	\$129						
C. 60" x 60"			EACH		\$152	\$155	\$159	\$161	\$168	\$171	\$178	\$184					
D. 72" x 72"			EACH			\$187	\$190	\$193	\$200	\$203	\$209	\$215					
23. RODENT GUARD FOR TERRACE OUTLET			EACH					\$10	\$10	\$11	\$13	\$21		\$35	\$57	\$61	\$76

1/ Complete with intake, valve, operating rod, valve box and lid, manually tamped backfill, installation, and profit

2/ Complete with intake, valves, valve box, filler pipe assembly, testing, excavation, manually tamped backfill, installation, and profit

24. INLINE WATER LEVEL CONTROL STRUCTURE COMPONENTS (Includes installation and profit) A. Inline water level control structure (To be placed in the embankment)	PIPE DIA IN.	RISER HEIGHT - FT.									ADD FOR BACK FLAP
		2	3	4	5	6	7	8	9	10	
	4	\$438	\$471	\$512	\$552	\$592	\$633	\$673	\$807	\$847	\$50
	6	\$450	\$492	\$535	\$578	\$621	\$663	\$706	\$835	\$878	\$50
	8	\$483	\$542	\$601	\$668	\$734	\$794	\$860	\$1,005	\$1,072	\$50
	10	\$516	\$584	\$654	\$716	\$784	\$846	\$914	\$1,062	\$1,131	\$50
	12	\$621	\$699	\$777	\$841	\$919	\$998	\$1,062	\$1,219	\$1,290	\$65
	15	\$670	\$767	\$841	\$923	\$1,004	\$1,072	\$1,154	\$1,322	\$1,403	\$65
	18	\$735	\$827	\$919	\$1,012	\$1,105	\$1,196	\$1,289	\$1,467	\$1,559	\$65
	24	\$1,029	\$1,243	\$1,463	\$1,677	\$1,891	\$2,111	\$2,325	\$2,547	\$2,761	\$100
	PIPE DIAMETER - IN.										
		3	4	6	8	10	12	15	18		
	B. Check valve	\$32	\$37	\$63	\$95	\$126	\$137	\$326	\$404		
	C. Bar guard	\$19	\$20	\$19	\$22	\$26	\$33	\$42	\$51		

25. WOOD PICKET DAM FOR CONCRETE CHUTE INLET STRUCTURE (Includes all material, installation, and profit)	OPENING LENGTH FT.	2 FT. TALL PICKET	4 FT. TALL PICKET
	3	\$112	\$161
	4	\$128	\$184
	5	\$143	\$207
	6	\$185	\$265
	8	\$215	\$312
	10	\$241	\$351
	12	\$298	\$432
	14	\$329	\$478
	16	\$386	\$559
	18	\$411	\$599
	20	\$442	\$645

26. POND LINER	Square Foot Surface Area
A. Natural clay 1/	\$0.25
B. Bentonite 2/	\$0.60
C. Soda ash 2/	\$0.35
D. Flexible membrane	3/

1/ Includes excavation of soil for liner and cover, water, liner placement with compaction, placement of soil cover.

2/ Includes excavation of soil for liner and cover, amendment materials, mixing, water, liner placement with compaction, placement of soil cover.

3/ To be estimated by the engineer, job design specific.

27. GATED IRRIGATION PIPE For surface irrigation and wastewater treatment strip	PIPE DIAMETER - IN.			
	UNITS	6	8	10
A. Plastic (PVC) 1/ 2/	LIN. FT	\$2.38	\$3.03	\$3.69
B. Aluminum 1/ 2/	LIN. FT	\$3.50	\$4.50	\$5.25

1/ 30-foot lengths, 30-inch gate spacing

2/ Includes tee and end plugs

MATERIAL, SERVICE, OR OPERATION (Includes installation and profit)	UNITS	UNIT COST
28. CENTER PIVOT IRRIGATION 1/ A. Conversion from surface irrigation to low pressure center pivot 2/ B. Conversion from high pressure to low pressure center pivot 3/	LIN. FT. NOZZLES (EACH)	\$30.00 \$24.75
29. SUBSURFACE DRIP IRRIGATION (SDI) 1/ 4/	ACRES	\$900.00

- 1/ The cost of the main line or supply line is not included. See "Irrigation pipeline", Item 20.F, if a main line is needed.
2/ Includes the complete center pivot installation with drops, pressure regulators, and nozzles using center pivot length
3/ Includes drops, pressure regulators, and nozzles
4/ Includes the complete SDI installation (filter system, manifold, laterals, and flush lines)